spiral lines upon the outside, so as to give the short, thick rhizome the aspect of a piece of a palm stem. As in *Nuphar*, the roots are produced in bundles at the bases of the petioles, and fall off successively upwards as the new ones are developed, leaving very conspicuous scars. The internal structure of the stem is quite Monocotyledonous in its character, presenting no trace of the arrangement of the vascular bundles into rings of wood, no true woody fibres, and no cambium layer. The vascular bundles, which are composed exclusively of spiral, annular and reticulated ducts surrounded by elongated parenchymatous cellular tissue, are isolated and arranged just as in Monocotyledons, such as the Palms; and the outer part of the stem exhibits a cortical parenchyma, much more like that of the herbaceous rhizomes of the rush-like plants, than any other known structure; it bears not the least resemblance to the bark of Dicotyledons. The results of the investigation show that *Victoria*, like *Nuphar*, has a stem of essentially Monocotyledonous structure. The paper was accompanied by drawings illustrating the general and microscopic anatomy of the stem.

2. "On the Meteorology of the English Lake District, including the results of Observations on the Fall of Rain at various heights, up to 3166 feet above the Sea-Level:" Fifth paper, for the year 1851. By John Fletcher Miller, Esq., F.R.S. &c. Received March 1, 1852.

The author states that the results for the past year do not seem to call for any particular remarks, and as it appears desirable, as a general rule, to defer all attempts at deduction until after the completion of the observations, the Tables for 1851 are presented, without many notes or comments, in continuation of the series which have previously appeared in the Transactions of the Society. The table for January, 1851, is given as an example of the daily fall of rain in the district during an excessively wet month, and also as showing the form of permanently registering the returns from the various stations, when sent in at the close of each month. He remarks that the quantity of 38·86 inches precipitated on "The Stye" in January 1851, is, he believes, without a parallel in the temperate zone.

3. "Formulization of Horary Observations presumed *à priori* to be nearly of a Periodic nature." By S. M. Drach, Esq., F.R.A.S., F.R.G.S. Communicated by Colonel Sabine, R.A., Treas., V.P.R.S. &c. Received March 18, 1852.

Referring to his former publications on the subject (Proceed. Roy. Soc. March 1842, Phil. Mag. 1842–51), the author empirically resolves the formula

$$ht = \mathrm{H} + \Sigma \mathrm{A}_i \sin it + \Sigma a_i \cos it = \mathrm{H} + \Sigma \mathrm{R}_i \sin (it + \psi_i),$$

$h$ being the effect observed at the hour-angle $t$, thus obtaining from the 24 hourly observations all values up to $i=12$. This method giving the values of $\mathrm{A}_i$, $a_i$, R for the different months, he believes that by it the law of change connected with the sun's motion in